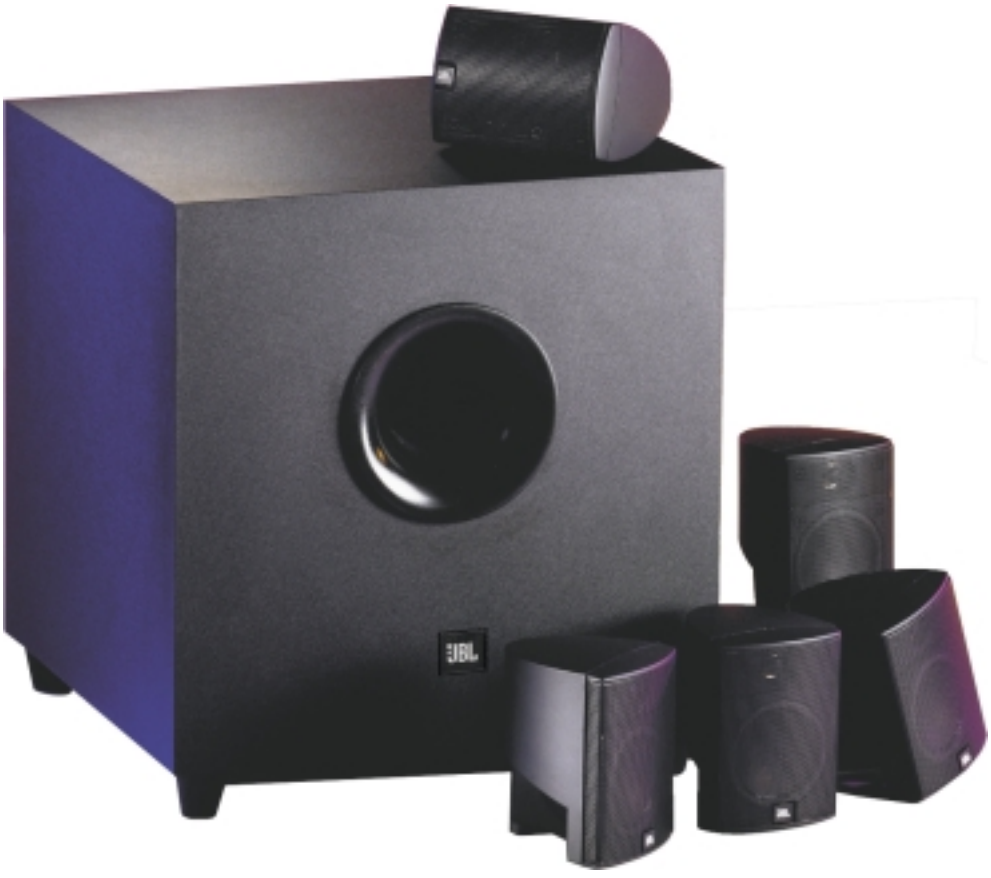
SUB125/125a

Amplifier/Subwoofer

SERVICE MANUAL



JBL Consumer Products Inc.
250 Crossways Park Drive
Woodbury, N.Y. 11797

A Harman International Company

Rev B 7/2003

The SUB125 is part of the SCS125/125a system

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GENERAL SPECIFICATIONS

SCS125/125a System

Frequency Response
35Hz – 20kHz (–6dB)

SUB125

Amplifier . . 75 watts RMS

Bass . . . . . 8" woofer, bass-reflex enclosure

Dimensions (H x W x D)
14-1/8 x 13 x 13 inches
359 x 330 x 330mm

Weight . . . 27.5 lbs/12.5 kg

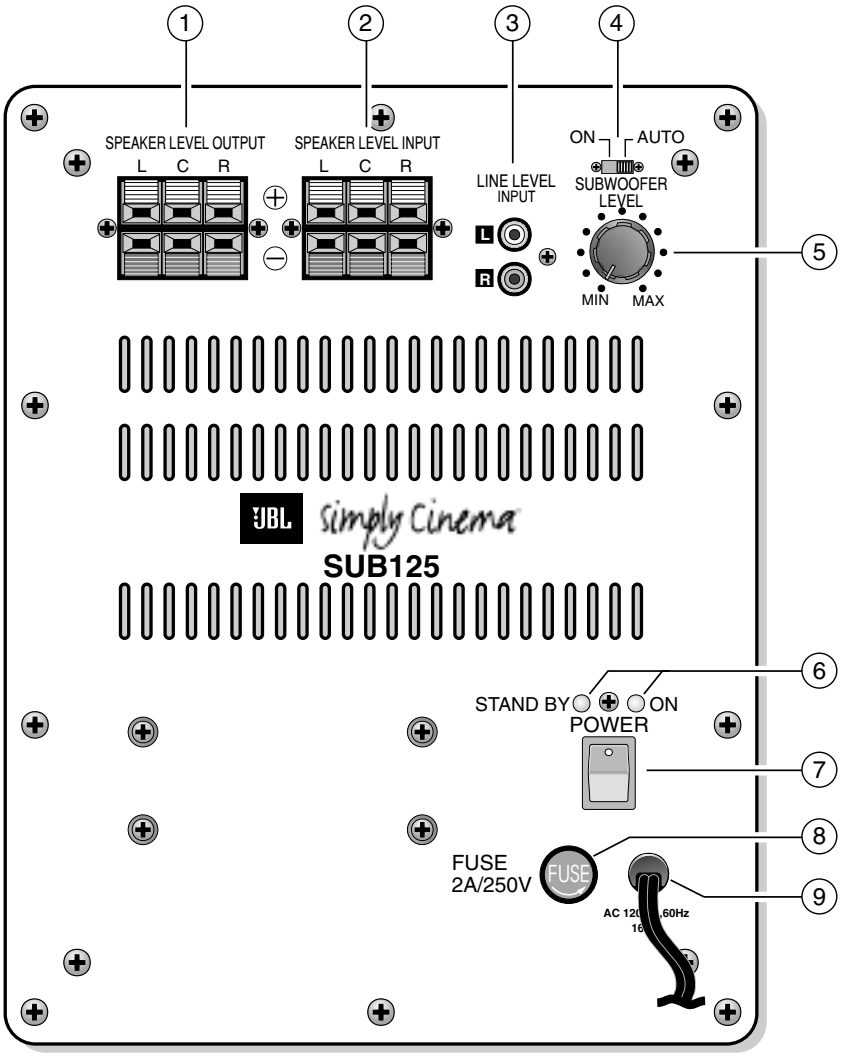
Refinements may be made on occasion to existing products without notice, but will always meet or exceed original specifications unless otherwise stated.

SCS125/125a SPECIFICATIONS

LINE VOLTAGE	Yes/No	**Hi/Lo Line**	**Unit**	**Notes**	
US 120vac/60Hz	Yes	108-132	Vrms	Normal Operation	
EU 230vac/50-60Hz	Yes	207-264	Vrms	Normal operation, MOMS required	
Asia 100vac/50Hz	Yes	90-110	Vrms	Normal Operation	
	Spec.	**Unit**	**Limits**	**Conditions**	**Notes**
Amp Section					
Type (Class AB, D, other)	AB	AB	n/a		Sink required for Class AB
Load Impedance (speaker)	4	Ohms	n/a	Nominal	Z-curve required
Rated Output Power	80	Watts	80	1 input driven	
THD@ Rated Power	0.08	%	0.3	22k filter	
THD @ 1 Watt	0.1	%	0.5	22k filter	
DC Offset	10	mV-DC	20	@ Speaker Outputs	
Damping factor	<200	DF	n/a		
Input Sensitivity					
Input Frequency	50	Hz	50	Nominal Freq.	1 input driven
Line Input	220	mVrms	±2dB	To Rated Power	1 input driven
Speaker/Hi Level Input	4.26	Vrms	±2dB	To Rated Power	(-26dB below Line In)...1 input driven
Signal to Noise					
SNR-A-Weighted	100	dBA	90	rel. to rated power	A-Weighting filter
SNR-unweighted	80	dBr	60	rel. to rated power	22k filter
SNR @ 1W-unweighted	60	dBr	55	rel. to 1W Output	22k filter
Residual Noise Floor	1.5	mVrms	2.5	Volume @max, using RMS reading DMM/VOM (or A/P)	
Residual Noise Floor	1	mVrms(max)	2	Volume @max, w/ A/P Swept Bandpass Measurement (Line freq.+ harmonics)	
Input Impedance					
Line Input	15K	ohms	n/a	Nominal	
Speaker/Hi Level Input	4.7K	ohms	n/a	Nominal	
Filters					
Low Pass (fixed or variable)	fixed	—	—		
Low Pass filter (point or range)	135	Hz	±2dB	-3dB Point	
Slope	24	dB/Octave	n/a		
Q	1.8	Damping	n/a	2 cascaded 2nd order filters of 1.8 &0.7 Q	
Subsonic filter (HPF)	31	Hz	±2dB	-3dB Point	
Slope	12	dB/Octave	n/a		
Q	1.4	Damping	n/a		

Signal Sensing (ATO)					
Auto-Turn-On (yes/no)	yes	—	functional		
ATO Input Frequency	50	Hz	functional		
ATO Level	2	mV	functional	2mV@50Hz into Line Input w/ 1 ch. driven	
ATO Bandwidth	5k	Hz	functional	ATO-LPF for noise immunity	DV1 measured 7mV @ 5kHz.... 2mV @ 1kHz
ATO Turn-on time	5	ms	functional	Amp connected and AC on, then input signal applied	
Auto Mute/ Turn-OFF Time	20	minutes	functional	T before muting, after signal is removed	
Power on Delay time	3	sec.	functional	AC Power Applied	
Transients/Pops					
ATO Transient	5	mV-peak	10	@ Speaker Outputs	
Turn-on Transient	50	mV-peak	100	@ Speaker Outputs	AC Line cycled from OFF to ON
Turn-off Transient	50	mV-peak	100	@ Speaker Outputs	AC Line cycled from ON to OFF
Efficiency					
Stand-by Input Power	10	Watts	n/a	@ nom. line voltage	
Power Cons.@rated power	160	Watts	n/a	@ nom. line voltage	
Protection					
Short Circuit Protection	Yes	—	functional	Direct short at output	
Thermal Protection	65 deg. C	—	functional	@1/8 max unclipped Power	DV1:Plate=50deg.C max.Tab=90deg.C max.T-on =65deg.C
DC Offset Protection	yes	—	functional	DC present at Speaker Out leads	Relay or crowbar (for driver/fire protection)
Line Fuse Rating	2	Amps	2	Type-T or Slo Blo	External fuse with UL/SEMKO rated holder

CONTROLS AND THEIR FUNCTION



1. **Speaker Level Outputs -** Connect the Left, Center and Right speakers to these connectors.

2. **Speaker Level Inputs -** These High Level Inputs are for receivers that do not have line-level "pre-amp out" or "subwoofer out" jacks. When a pair of main or satellite speakers are attached to the OUTPUT terminals, they are driven the full range of frequencies as generated by the music source (receiver, amplifier, etc.)

3. **Line Level Input -** These left and right Line Level Inputs are normally used when the receiver/ processor has line-level "pre-amp out " or "subwoofer out" jacks.

4. **Auto/On Switch -** This switch allows you to set the Mode of the Amplifier. Turn the switch to Auto to cause it to ***Auto***-matically turn on when it receives a signal and ***Auto***-matically turn off after twenty minutes without a signal. If this switch is left "On", the subwoofer will always be ON when the power switch is turned On, regardless of input signal.

5. **Subwoofer Level -** This knob controls the volume level of the SUB125.

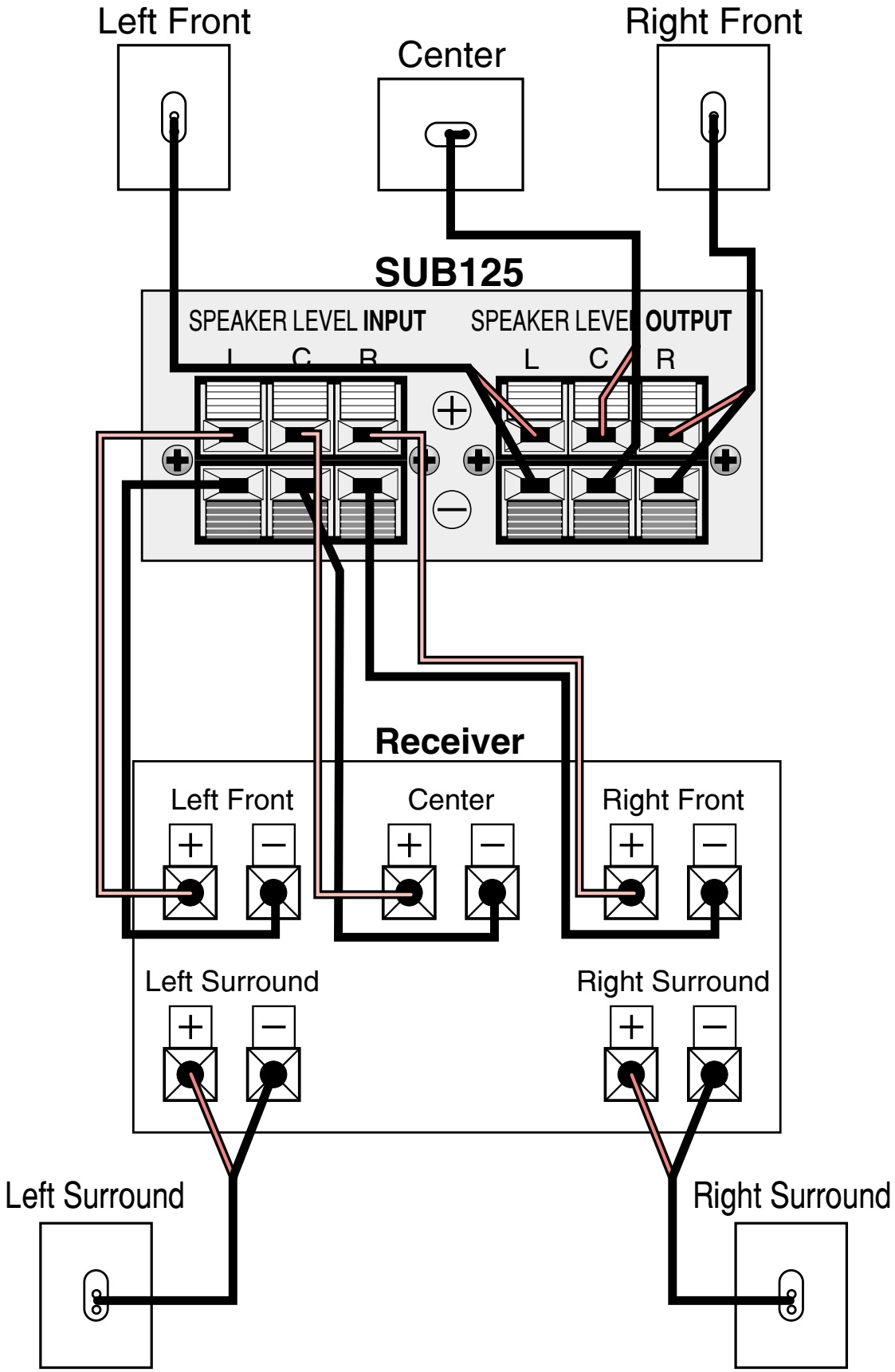
6. **LED** - Red & Green. The LEDs indicate the Mode status that the subwoofer is in. When the SUB125 is turned OFF neither LED will be lit. The Green LED will light when the SUB125 is ON and receiving a signal. The Red LED will light when the amplifier has not received a signal for twenty minutes. The subwoofer will turn on when your receiver/amplifier begins playing again.

7. **Power Switch -** This the master power switch. Use it (in Off mode) to disconnect power to the amplifier.

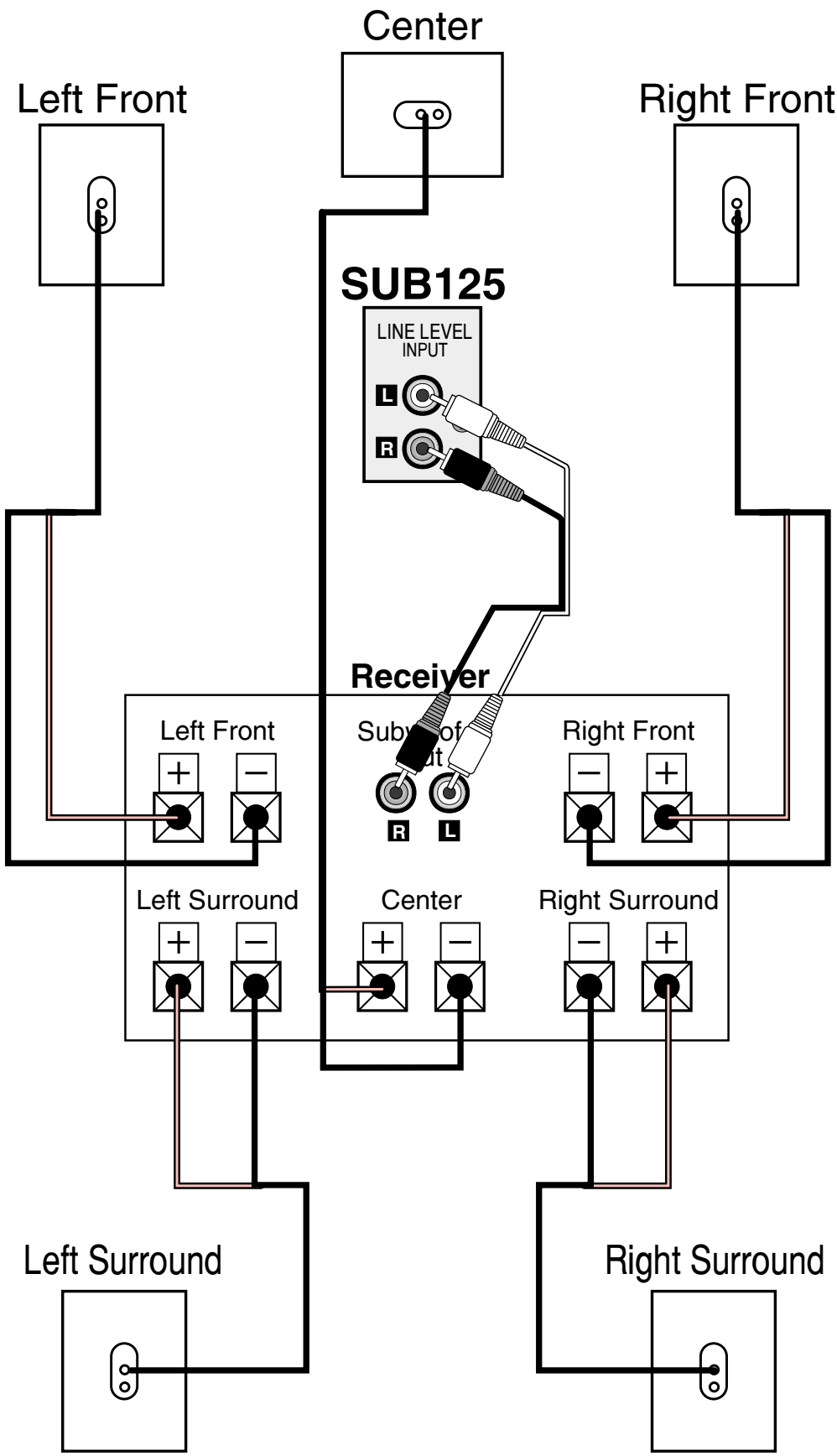
8. **Fuse -** Use only same type of fuses. For the U.S. 120V version use only a 2A 250V fuse. For the European 230V version use only a 1A fuse.

9. **AC Cord**

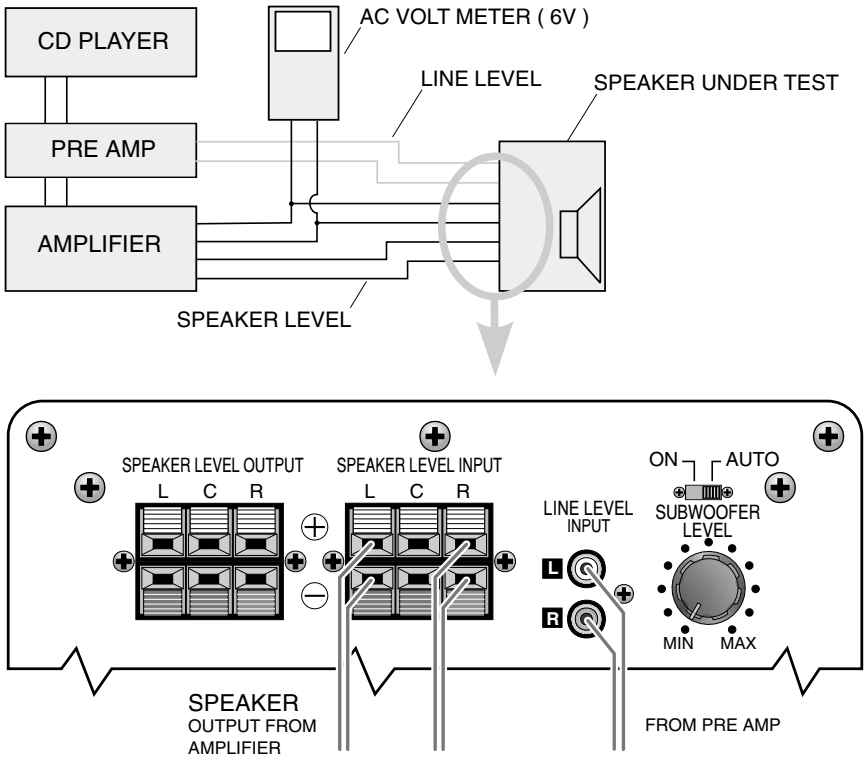
SCS125/125a SPEAKER LEVEL CONNECTIONS



SCS125/125a LINE LEVEL CONNECTIONS



SUB125 TEST SET UP AND PROCEDURE



General Function

UUT = Unit Under Test

1. Connect both right and left line level inputs (RCA) to signal generator and UUT. Use Y-cable if necessary from mono source. VOLUME control should be full counterclockwise.
2. Turn on generator, adjust to **200mV, 50 Hz.**
3. Plug in UUT; red LED should be ON. Turn VOLUME control full clockwise.
4. LED should turn Green; immediate bass response should be heard and felt from port tube opening.
5. Turn off generator, turn VOLUME control fully counterclockwise, disconnect RCA cables.
6. Connect one pair of speaker cables to both high level input terminals on UUT. Cables should be connected to an integrated amplifier fed by the signal generator.
7. Turn on generator and adjust so that speaker level output is **3.0V, 50 Hz**. Turn VOLUME control full clockwise.
8. Green LED should light, immediate bass response should be heard and felt from the port tube opening.

Sweep Function

1. Follow steps 1-4 above, using a sweep generator as a signal source.
2. Sweep generator from **20Hz to 300Hz**. Listen to the cabinet and drivers for any rattles, clicks, buzzes or any other noises. If any unusual noises are heard, remove driver and test.

Driver Function

1. Remove driver from cabinet; detach + and - wire clips.
2. Check DC resistance of driver; it should be **3.3** ohms.
3. Connect a pair of speaker cables to driver terminals. Cables should be connected to an integrated amplifier fed by a signal generator. Turn on generator and adjust so that speaker level output is **5.0V.**

4. Sweep generator from **20Hz to 1kHz**. Listen to driver for any rubbing, buzzing, or other unusual noises.

SIMPLE TROUBLESHOOTING

If there is no sound from any of the speakers, check the following:

• Receiver/amplifier is on and a source is playing.

• Powered subwoofer is plugged in and is either in the “On” or “Auto” position.

• Check all wires and connections between receiver/ amplifier and speakers. Make sure all wires are connected. Make sure none of the speaker wires are frayed, cut or punctured.

• Review proper operation of your receiver/amplifier. If there is no sound coming from one speaker, check the following:

• Check the “Balance” control on your receiver/amplifier.

If the system plays at low volumes but shuts off as volume is increased, check the following:

• Check all wires and con-nections between receiver/ amplifier and speakers. Make sure all wires are connected. Make sure none of the speaker wires are frayed, cut or punctured.

• If more than one pair of main speakers is being used, check the minimum impedance requirements of your receiver/amplifier.

If there is low bass output, check the following:

• Make sure the connections to the left and right “Speaker Inputs” have the correct polarity (+ and –).

• Powered subwoofer is plugged in and is either in the “On” or “Auto” position.

If there is no sound from the surround speakers, check the following:

• Check all wires and connections between receiver/ amplifier and speakers. Make sure all wires are connected. Make sure none of the speaker wires are frayed, cut or punctured.

• Review proper operation of your receiver/amplifier and its surround sound features.

• Receiver mode must be in Dolby Pro logic, Dolby Digital, or any other mode that creates a surround-sound effect. Even under normal operation, when viewing movies and television, surround sound is not present at all times at a high volume - only when the program has chosen to send information there.

Service Bulletin JBL9901

To: All JBL Service Centers - January 1999 This is considered a Minor repair

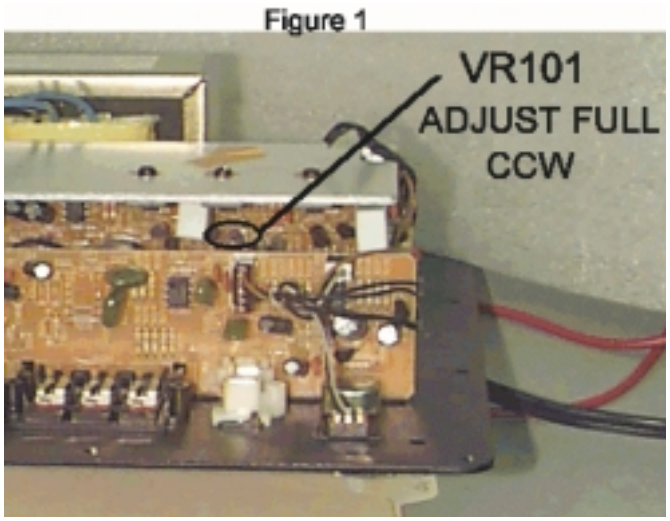
Model: Sub125 (SCS125 Powered Subwoofer)

Subject: Amplifier plate overheating; Blown fuses

In the event you receive a Sub125 (SCS125 Powered Subwoofer) with the complaint “amplifier plate is getting too hot”, or “the unit is blowing fuses”, perform the necessary steps listed below to change the bias current of the amplifier. This procedure should be performed on all Sub125 amplifiers being serviced for any reason:

1. Set the subwoofer cabinet on a padded surface with amplifier facing upwards.
2. Remove the (14) Philips screws holding the amplifier and inner plastic cover to the cabinet. Four of these 14 screws are in each corner, slightly larger and just inside the smaller corner screws.
3. Remove amplifier assembly carefully . Do not pull the amplifier out of the cabinet too much; it can disconnect the speaker wires. (The amp assembly can be laid on one corner of the cabinet for the remainder of the procedure without disconnecting the speaker wires).
4. Carefully pry plastic cover off amplifier assembly. If you are too aggressive Molex connector P104 may be damaged; speaker wire inside the cover has little extra length. Lift the left side of the cover first to avoid disconnecting the cable at P104; this connector is located on the right side of the plate inside the cover.
5. Once the cover is pulled back, locate VR101. See Figure 1.
6. Using a thin Phillips screwdriver 5 or more inches long, set trim pot VR101 to Full CCW position (Minimum level). Be gentle to avoid damage to the part.
7. If necessary, replace blown line fuse with h/k part# FS1067, (2A Slo-Blo 5 x 20mm GMC type).
8. Replace the amplifier in the cabinet; replace all (14) screws to secure the amplifier plate and plastic cover.*
9. Functional Test - Set the LEVEL control to minimum (Full CCW). Connect an AC Wattmeter to the AC input line and turn the unit ON; maximum AC measured power should not be more than 12.5 watts.
10. Connect music signal from a CD source and increase volume to a medium level to verify sound from the subwoofer. Do not increase volume to a point where the unit is driven into clipping. No evidence of distortion and/or rattle inside the box should occur.
11. Conduct warm-up for 10 minutes; turn LEVEL control Full CCW or remove signal. Input power as measured by AC Power meter should not exceed 13 watts. If value exceeds this, re-check pot. VR101 position if necessary.
12. Add an adhesive label (dot) to the amplifier plate with the letter “a” written on it; if the customer’s outer carton is available, add an “a” with a marker to the “SCS125” printing on the carton in all places where it appears.

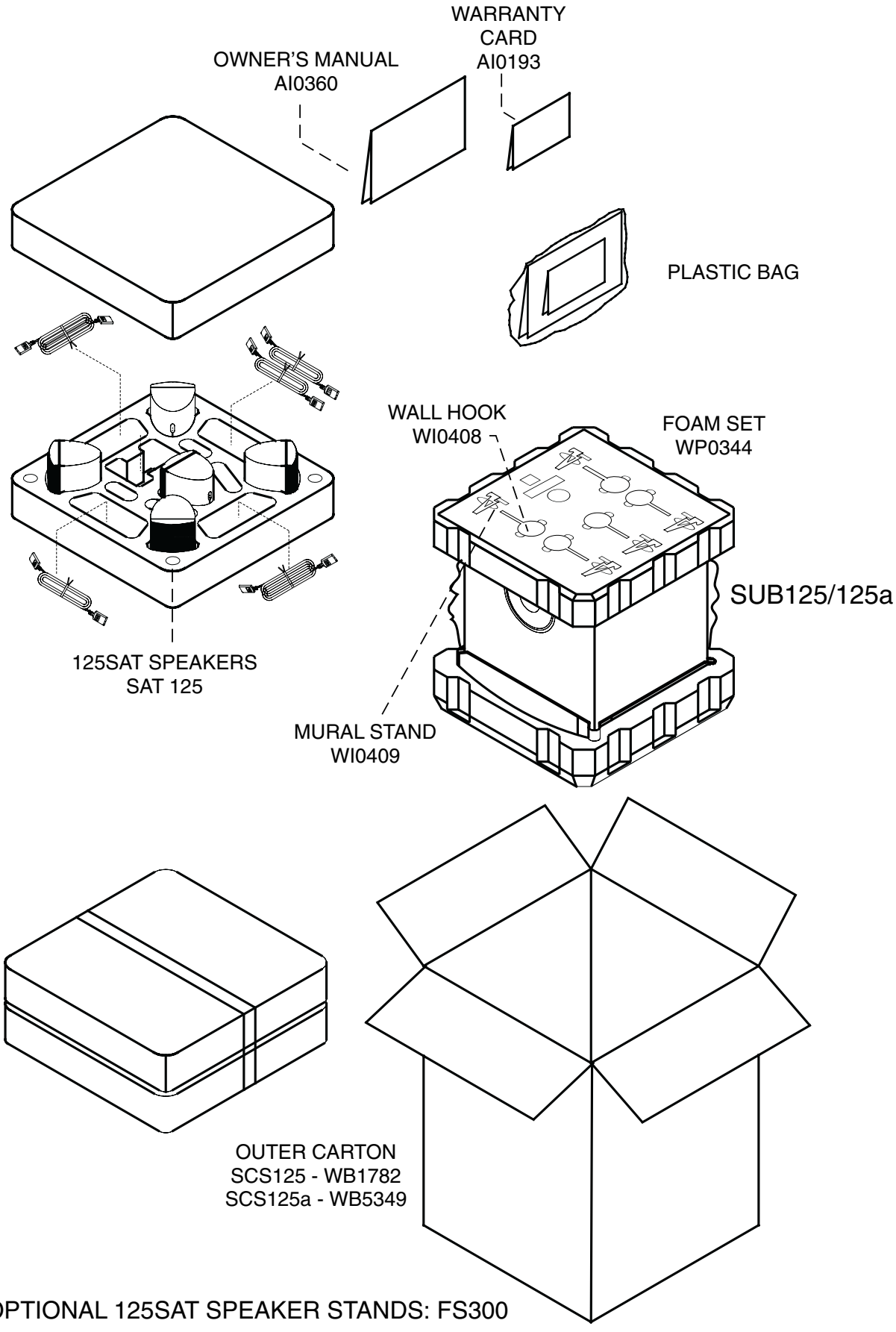
Figure 1



Unmodified Sub125 (SCS125 Subwoofer)	Factory Modified Sub125a (SCS125 Subwoofer)
	Orange Label on amplifier plate: This area is designed to become quite warm during normal operation
Outer carton marked **SCS125**	Outer carton marked **SCS125a**

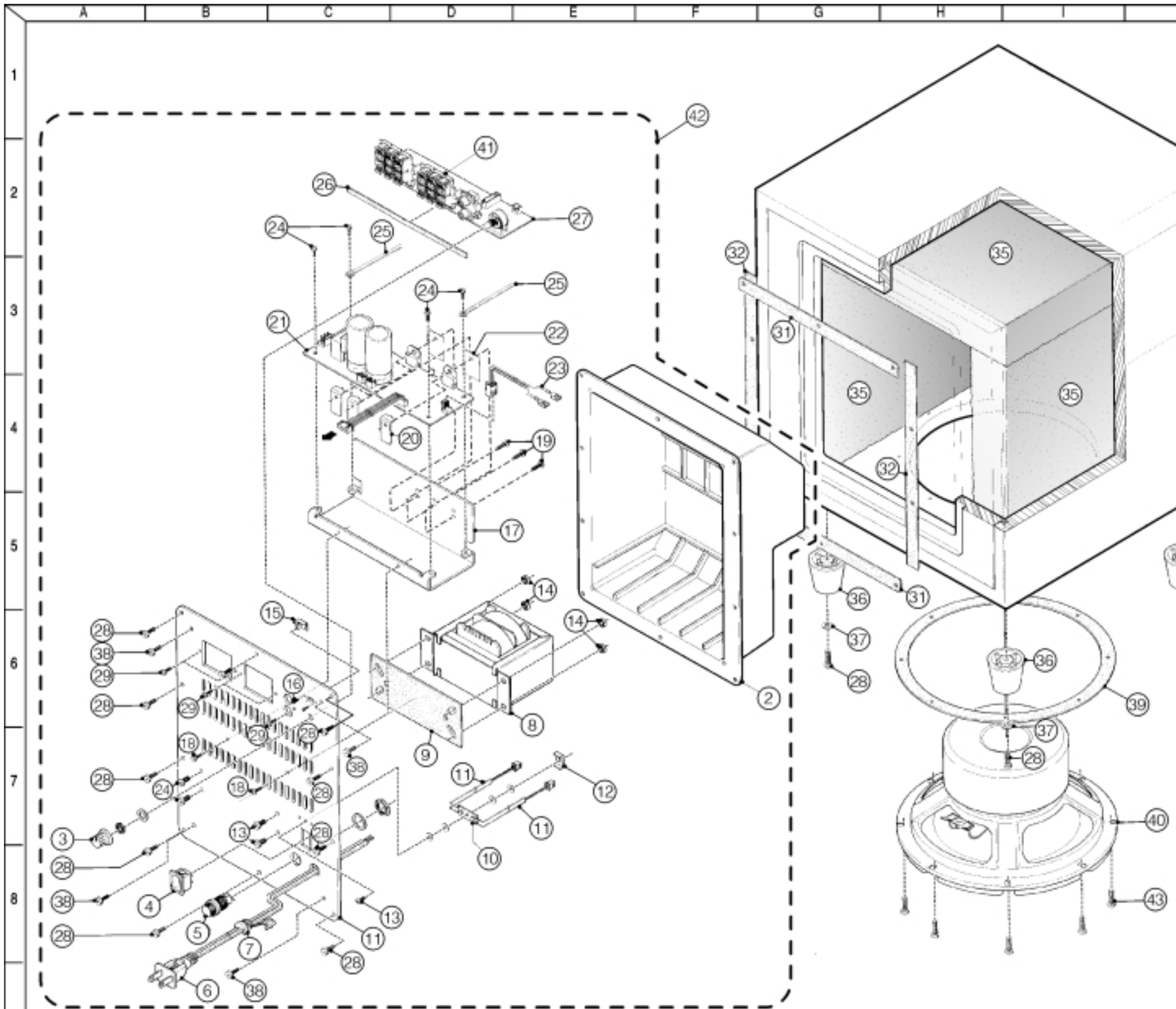
* Alternately, the amplifier may be driven out of the cabinet by attaching a 4 ohm 25 watt load resistor to the output terminals, and using a 50 Hz sine wave input signal adjusted to achieve 7 volts at the load resistor for the warm-up test.

SCS125/125a PACKING



OPTIONAL 125SAT SPEAKER STANDS: FS300

SUB125 EXPLODED VIEW



SUB125
Exploded View

Ref. No.	DESCRIPTION	PART NUMBER
#3	PLASTIC KNOB	700KB800
#4	POWER SWITCH	180PBR12C11S
#5	FUSE HOLDER	15520001
#6	POWER CORD 120V	152U602012
	POWER CORD 230V	152U602015
#8	POWER TRANSFORMER 120V	150E8604104
	POWER TRANSFORMER 230V	150E8604102
#15	SLIDE SWITCH AUTO-ON	180SMS50126
#22	MICA INSULATOR	1933M2520
#34	JBL LOGO	SZ163
#36	RUBBER FOOT (SCS125)	725RFA800
	RUBBER FOOT (SCS125a)	725RFB800
#40	8" WOOFER	FTW6080-311
#41	SPEAKER TERMINALS	1742-CJ9030
#42	AMPLIFIER ASSEMBLY (120V)	101SUB125
	AMPLIFIER ASSEMBLY (230v)	101SUB125E

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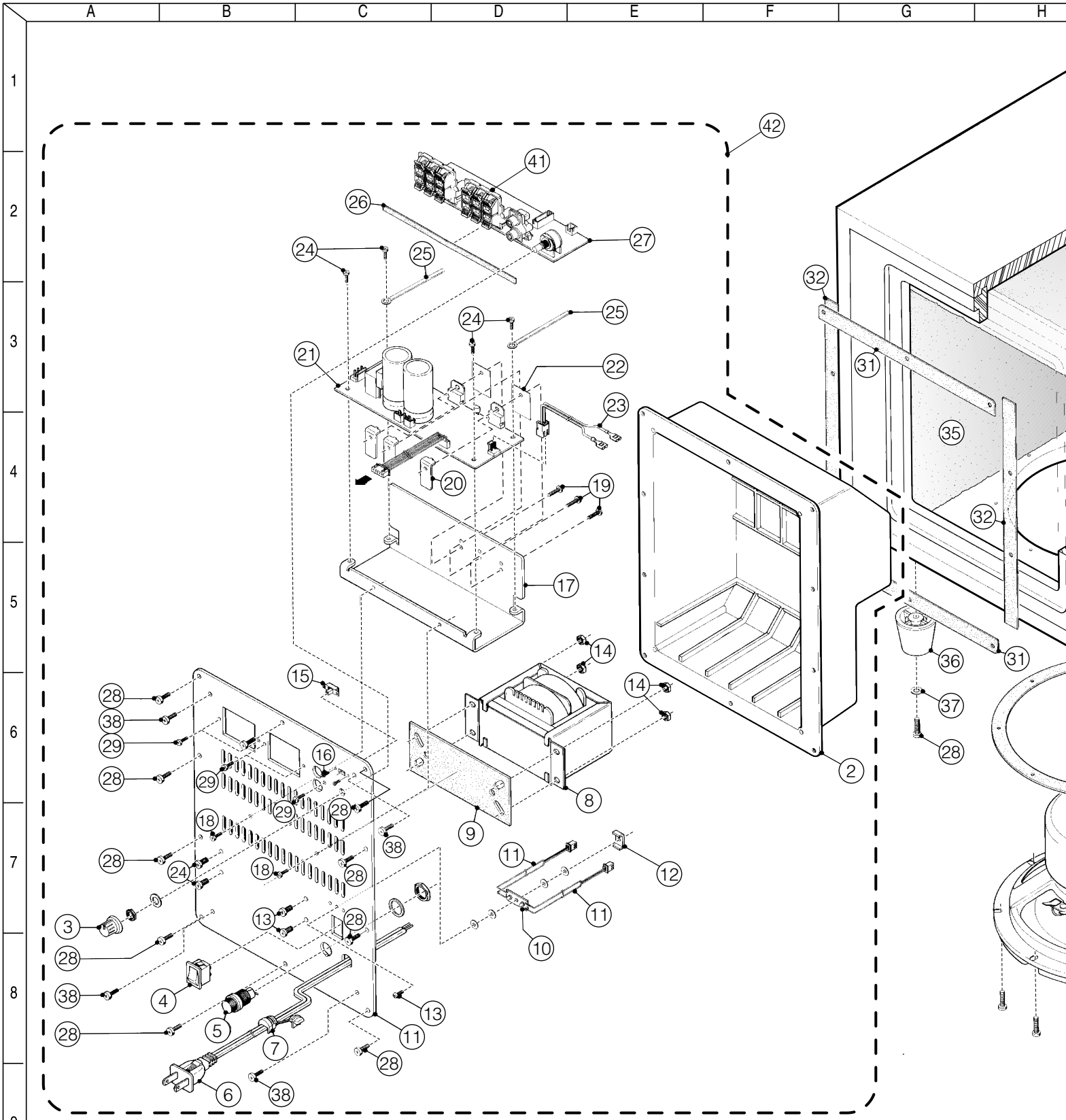
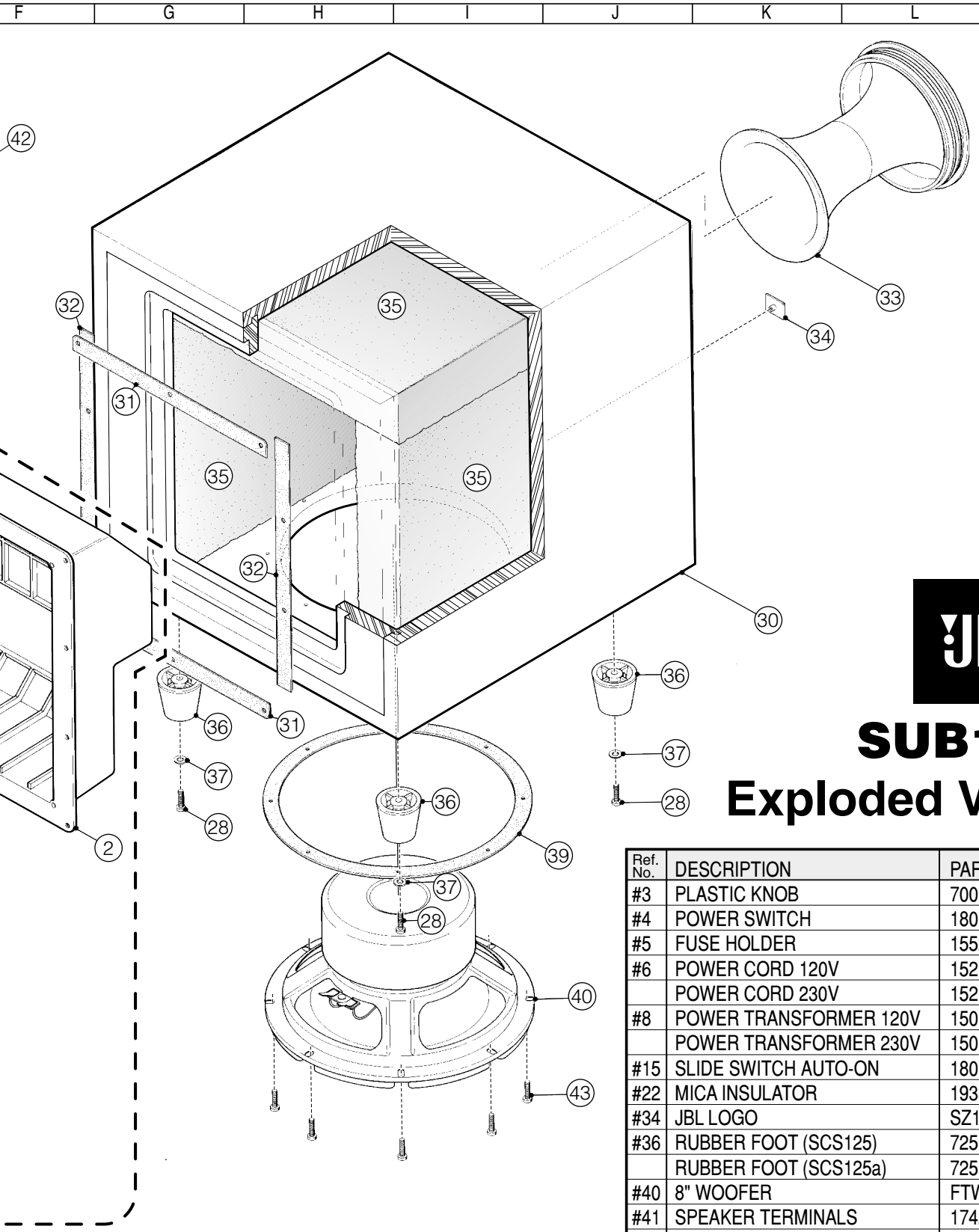
SUB125 EXPLODED VIEW



SUB125 EXPLODED VIEW



SUB125
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	POWER CORD 230V	152U602015
#8	POWER TRANSFORMER 120V	150E8604104
	POWER TRANSFORMER 230V	150E8604102
#15	SLIDE SWITCH AUTO-ON	180SMS50126
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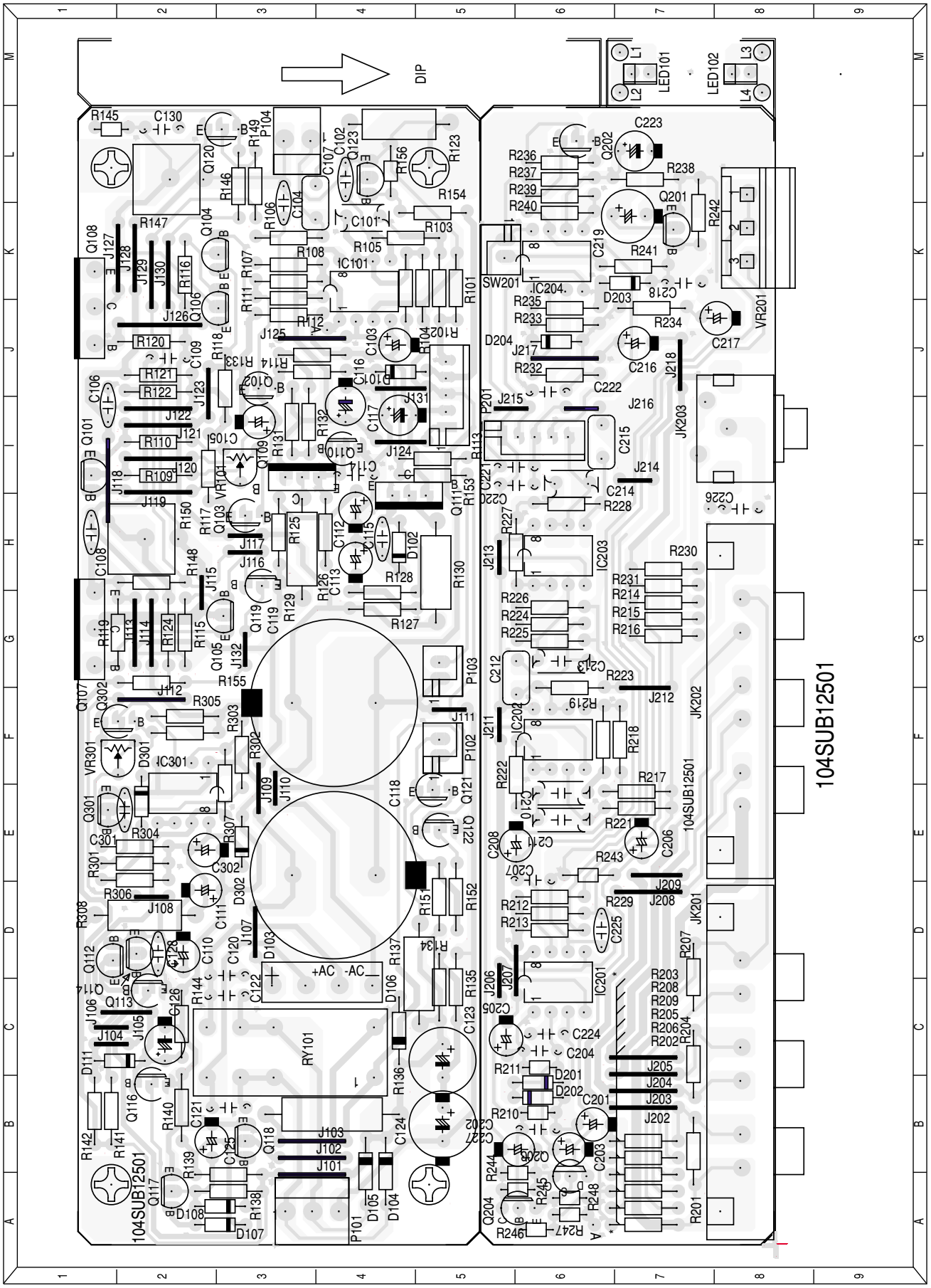
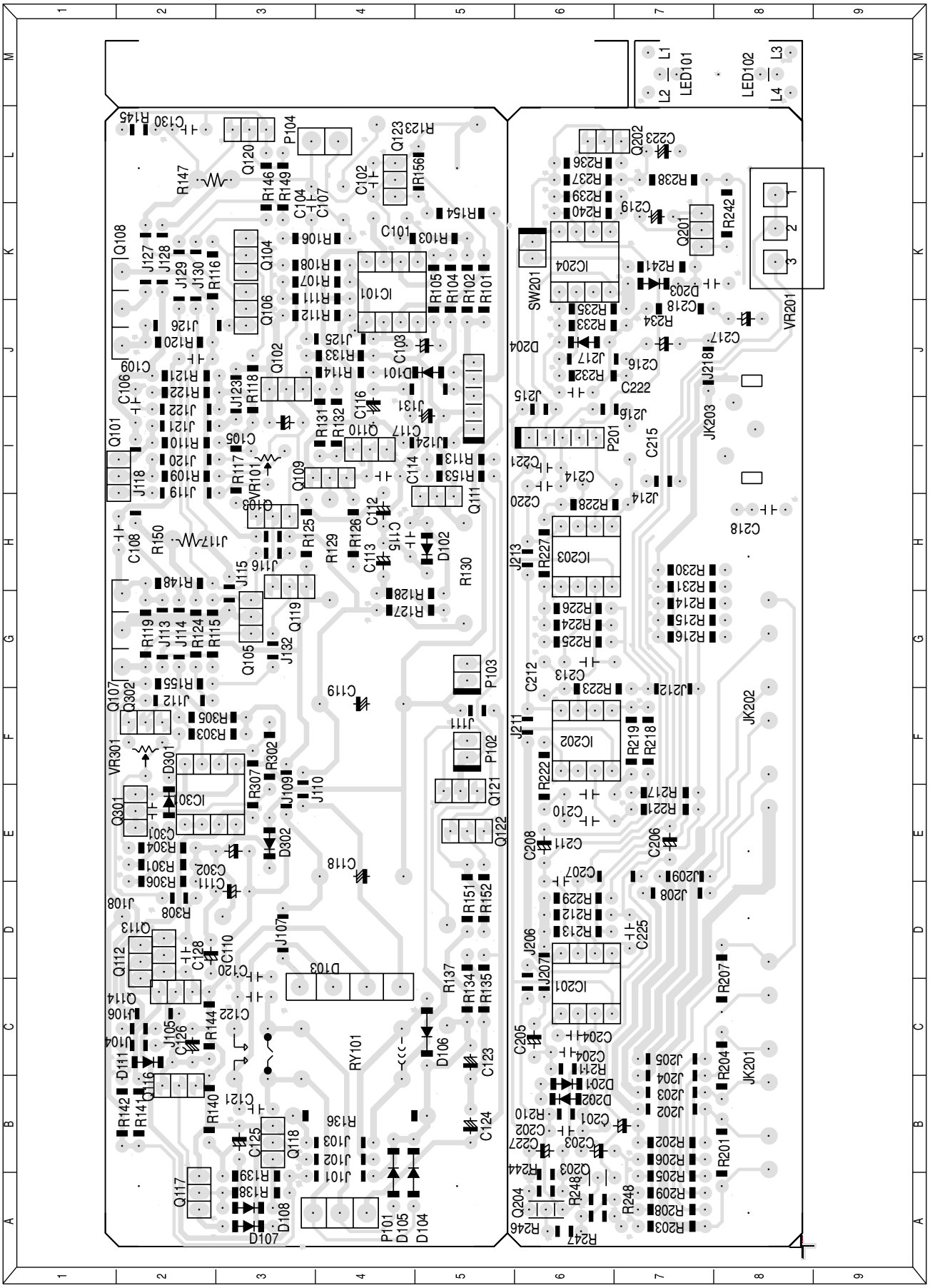
#40	8" WOOFER	FTW6080-311
#41	SPEAKER TERMINALS	1742-CJ9030
#42	AMPLIFIER ASSEMBLY (120V)	NOT FOR SALE
	AMPLIFIER ASSEMBLY (230v)	NOT FOR SALE

SUB125 PCB COMPONENT SIDE



SUB125 PCB SOLDER SIDE



SUB125 ELECTRICAL PARTS LIST

REF #	PART #	DESCRIPTION	QTY
Capacitors			
C101	132334J504	MYLAR CAP. 0.33U/50V +-5%	1
C102, 215	132223J504	MYLAR CAP. 0.022U 50V +-5%	2
C103, 110, 111, 112, 113, 201, 203	1353226M50	ELECT. CAP. 22U/50V +-20%	7
C104	1302B150K503	DISK CAP. 15PF 50V +-10% TAP	1
C105, 216	1353105M50	ELECT. CAP. 1U/50V +-20%	2
C106, 202, 204, 222	1302B221K503	DISK CAP. 220P 50V +-10%	4
C107, 212, 213	132104J504	MYLAR CAP. 0.1U/50V +-5%	3
C108, 109, 114, 115, 128, 130, 218, 220, 221, 301	1302F104Z503	DISC CAPACITOR 0.1U 50V +20/-20%	10
C116, 117, 126, 223, 302	1353107M16	ELECT. CAP. 100U/16V +-20%	5
C118, 119	1354688M50	ELECT. CAP. 6800U/50V +-20%	2
C120	132333J504	MYLAR CAP. 0.033U/50V +-5%	1
C121, 122	132103J504	MYLAR CAP. 0.01U 50V +-5%	2
C123, 124	1353107M50	ELECT. CAP. 100U/50V +-20%	2
C125	1354476M25	ELECT. CAP. 47U/25V +-20%	1
C127	1302G472MD00	DISC CAPACITOR 4700P 400V +-20%	1
C205, 206, 208, 217	1353106M50	ELECT. CAP. 10U/50V +-20%	4
C207	130S1101K503	DISC CAP. 100P 50V +350/-1000	1
C214	132473J503	MYLAR CAP. 0.047U/50V +-5%	1
C219	1354227M16	ELECT. CAP. 220U/16V +-20%	1
Diodes			
D101, 108, 111, 201, 202, 203, 301	197131N4148	DIODE IN4148 52MM	7
D102, 107	19915001503	ZENER DIODE 15V 1/2W 52MM	2
D103	19700KB1405	BRIDGE DIODE 4A 500V KBL405	1
D104, 105, 106	197131N4004	DIODE IN4004	3
D204	1991500333	ZENER DIODE 3.3V 1/2W 52MM	1
D302	19915000623	ZENER DIODE 6.2V 1/2W 52MM	1
Integrated Circuits			
IC101, 201, 203, 204	19006M4558D	I.C. OPA 4558D OP-AMP	4
IC301	190161M311N	I.C. LM311 COMPARATOR	1
Resistors			
R101, 102, 104, 146, 210, 211, 212, 217, 226, 237	11014103J52	RESISTOR 10K 1/4W +-5%	10
R103	11014183J52	RESISTOR 18K 1/4W +-5%	1
R105, 126, 128	11014272J52	RESISTOR 2K7 1/4W +-5%	3
R106, 124, 134, 135, 141, 142, 144, 155, 229, 230, 231, 232, 302	11014473J52	RESISTOR 47K 1/4W +-5%	13
R107, 108, 125, 127, 145, 148	11014332J52	RESISTOR 3.3K 1/4W +-5%	6
R109	116144751F26	PRECISION RESISTOR 4.75K 1/4W+-1%	1
R110	116143821F26	PRECISION RESISTOR 3.82K 1/4W+-1%	1
R111, 112	11014392J52	RESISTOR 3K9 1/4W +-5%	2
R113	11014222J52	RESISTOR 2.2K 1/4W +-5%	1
R114, 131, 133, 140, 213, 214, 215, 224	11014153J52	RESISTOR 15K 1/4W +-5%	8
R115, 116	11014221J52	RESISTOR 220OHM 1/4W +-5%	2
R117, 118	11014470J52	RESISTOR 47OHM 1/4W +-5%	2
R119, 120	11014101J26	RESISTOR 100OHM 1/4W +-5%	2
R121, 304	11014682J52	RESISTOR 6K8 1/4W +-5%	2
R122	11014331J52	RESISTOR 330OHM 1/4W +-5%	1
R123	11012100J52	RESISTOR 10OHN 1/2W +-5%	1
R129, 130	11010561J15	RESISTOR 560OHM 1W +-5%	2
R132	11014182J52	RESISTOR 1K8 1/4OHM +-5%	1
R136	11020102J20	RESISTOR 1K 26W +-5% CF 20MM	1
R137	11012272J52	RESISTOR 1/2W +-5%	1
R138, 139, 149, 151	11014333J52	RESISTOR 33K 1/4W +-5%	4
R147, 150	11350R22J20	CERAMIC RESISTOR 0.22OHM 5W	2
R152	11014123J52	RESISTOR 12K 1/4W +-5%	1
R153, 154, 238, 241, 242,	11014223J52	RESISTOR 22K 1/4W +-5%	5
R156	11016103J52	RESISTOR 10K 1/6W +-5%	1
R201, 204, 207 303, 305	11014472J52	RESISTOR 4K7 1/4W +-5%	5
R202, 203, 205, 206, 208, 209	11014913J52	RESISTOR 91K 1/4W +-5%	6
R216, 235	11014102J26	RESISTOR 1K 1/4W +-5%	2
R225	11014124J52	RESISTOR 120K 1/4W +-5%	1
R227	11014273J52	RESISTOR 27K 1/4W +-5%	1
R228	11014513J52	RESISTOR 51K 1/4W +-5%	1
R233	11014154J52	RESISTOR 150K 1/4W +-5%	1
R234	11014151J52	RESISTOR 150OHM 1/4W +-5%	1
R236	11014275J52	RESISTOR 2.7M 1/4W +-5%	1
R239	11014104J52	RESISTOR 100K 1/4W +-5%	1
R240	11014106J52	RESISTOR 10M 1/4W +-5%	1
R301	11014562J52	RESISTOR 5K6 1/4W +-5%	1
R306	11014911J52	RESISTOR 910OHM 1/4W +-5%	1
R307	11014105J52	RESISTOR 1M 1/4W +-5%	1
R308	11010272J15	RESISTOR 2.7K 1W +-5%	1
VR101	11403501M0	POTENTIOMETER 500OHM ***(SUB125 ONLY)***	1
VR201	115V503B1	VARIABLE RESISTOR D16 50K/1 A	1
VR301	11403302M0	TRIMER RESISTOR 3K 0.3W +-20%	1

Transistors

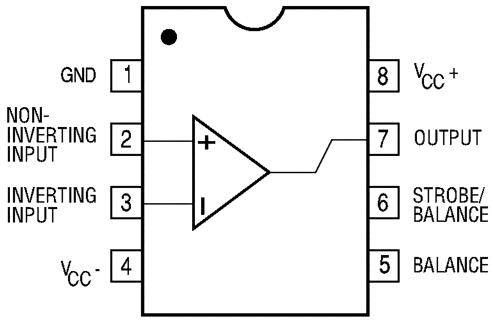
REF #	PART #	DESCRIPTION	QTY
Q101, 102, 103, 110, 112, 113, 114, 116, 117, 122, 123, 201, 202, 301	192027C1815GR	2SC1815GR	14
Q104, 119, 121, 302	192028A1015GR	2SA1015GR	4
Q105	192028A965Y	2SA965R Y	1
Q106, 118	192027C2235Y	2SC2235Y	2
Q107	192022TIP36C	TIP36C	1
Q108	192021TIP35C	TIP35C	1
Q109	192201D882Y	KSD882Y	1
Q111	192202B772Y	KSB772Y	1
Q120	192027C2240GR	2SC2240GR	1

Miscellaneous

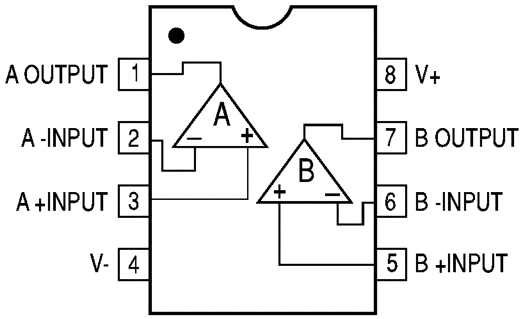
REF #	PART #	DESCRIPTION	QTY
Q107, 108	1933M2520	MICA ISOLATOR TO-3P 25*20MM	2
LED1	19510204GD	LED GREEN 3MM FOR ON	1
LED2	19510204HD	LED RED 3MM FOR STANDBY	1
*****	650IH125	IC HOLDER	3
FS101	FS1067	FUSE 2.0A 120V 5x20mm	1
FS101	154U20006T0	FUSE 1.0A 230V 20MM UL	1
*****	15520001	FUSE HOLDER R3-12	1
SW101	180PBR12C11S	POWER SWITCH PUSH BR12C11S	1
*****	180SMS50126	SLIDE SWITCH M50126	1
*****	700KB800	PLASTICKNOB 46077-W P.V.C.	1
*****	161506520	JUMPER WIRE 52MM TAP	53
*****	16210088001	CABLE ASS'Y 2PIN AWG28 80MM	1
P201	16211508001	WIRE ASS'Y 5PINA ON BOARD 150MM	1
P102, 3	16213008002	CABLE ASS'Y 2PIN FORLED AWG26 225MM	2
*****	16210082007	WIRE RED 18AWG 80MM BOTH END TRIPPED AND TINNED	2
*****	16210302001	"SPEAKER WIRE 300MM, #205 0.5T"	1
RY101	171UGS2121	RELAYMI-SH-212L	1
JK203	1740RCB202V	OUTLET RCA JACK RCB-202V	1
JK201,2	1742CJ9030	SPEAKER TEMINAL 6PIN CJ-9030	2
P102/A,103/A, SW201	1751C02V1B	CONNECTOR 2PIN PITCH=2.5MM	3
P201/A	1751C05V01	CONNECTOR 5PIN PITCH=2.5MM	1
P104/A	1751D02V01	CONNECTOR 2PIN PITCH=3.96MM	1
P101	1751D03V01	CONNECTOR 3PIN PITCH=3.96MM	1
	150E8604104	POWER TRANSFORMER (120V)	1
	150E8604102	POWER TRANSFORMER (230V)	1
	152U602012	POWER CORD (120V)	1
	152U602015	POWER CORD (230V)	1

Integrated Circuit Diagrams

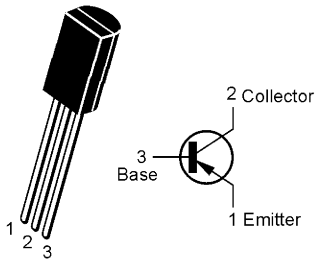
IC301 - LM311 COMPARATOR



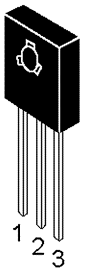
C101, 201, 203, 204 - 4558D OP-AMP



2SC2235Y, 2SA965R,
2SC2240GR
Q105,106,118, 120

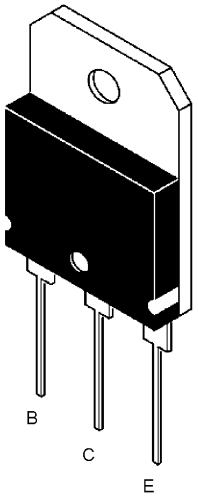


KSD882Y, KSB772Y
Q109,111

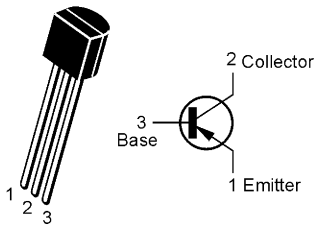


1. Emitter
2. Collector
3. Base

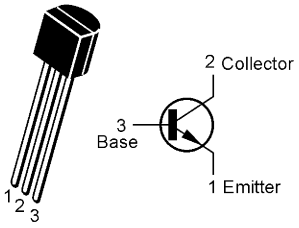
TIP35C, TIP36C
Q107,108



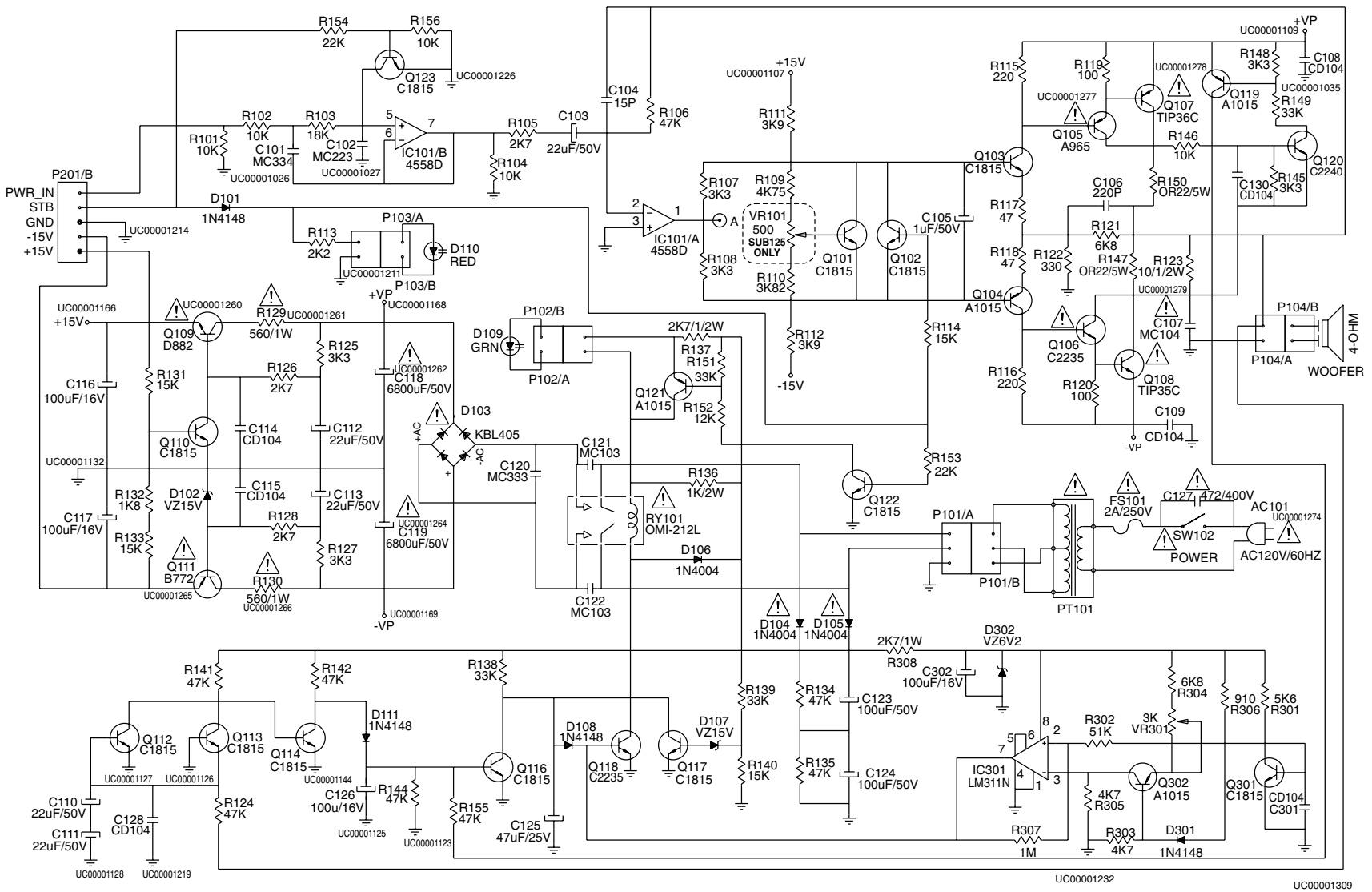
2SA1015GR
Q104,119,121,302

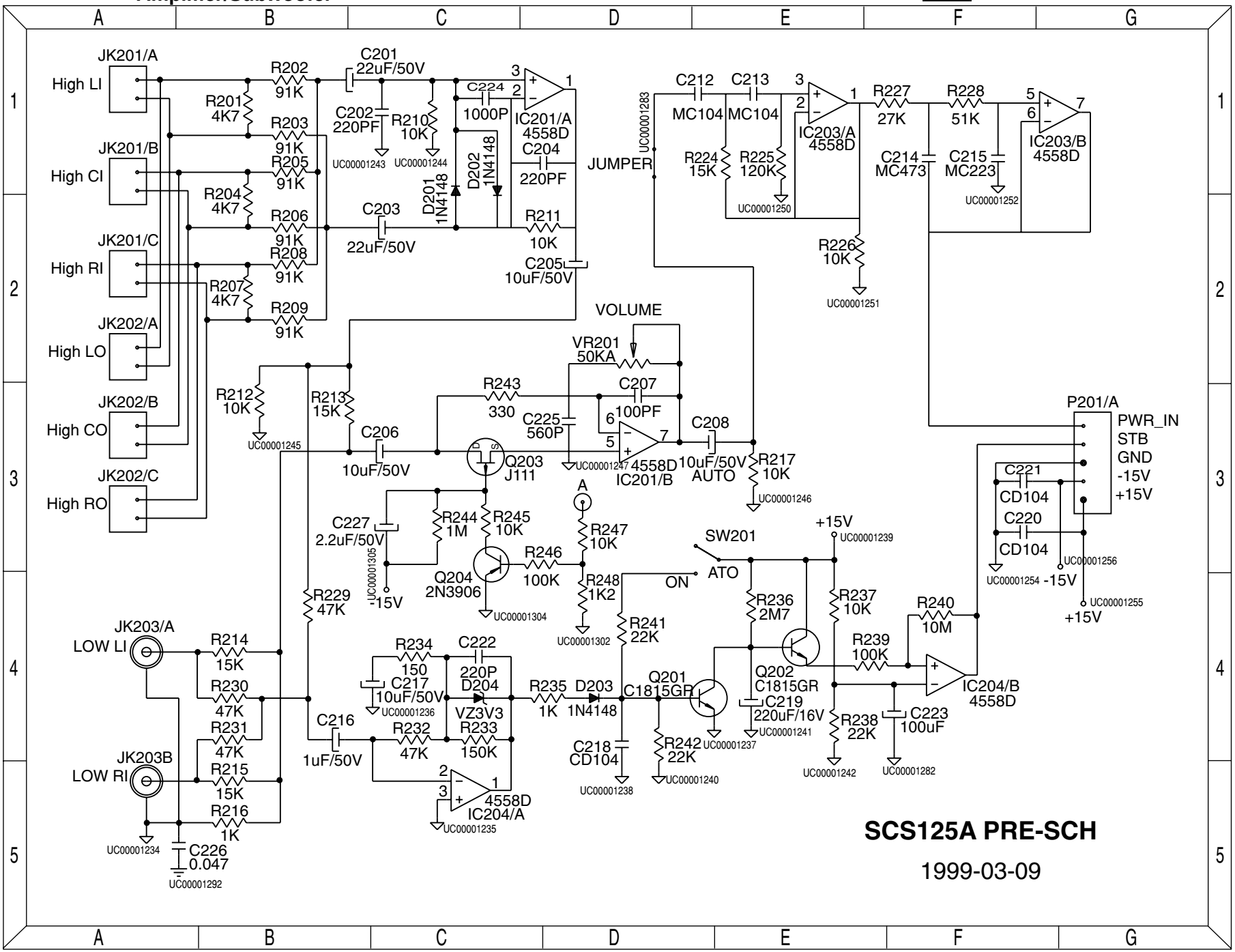


2SC1815GR
Q101-103,110,112-114,
116,117,122,123,201,202,301



SCS125A PWR-SCH 1999-03-09




JK201/A
High LI
JK201/B
High CI
JK201/C
High RI
JK202/A
High LO
JK202/B
High CO
JK202/C
High RO
R201 4K7
R202 91K
R203 91K
R204 4K7
R205 91K
R206 91K
R207 4K7
R208 91K
R209 91K
C201 22uF/50V
C202 220PF
R210 10K
C203 22uF/50V
C224 1000P
IC201/A 4558D
C204 220PF
D201 1N4148
D202 1N4148
R211 10K
C205 10uF/50V
JUMPER
C212 MC104
C213 MC104
R224 15K
R225 120K
IC203/A 4558D
R226 10K
R227 27K
R228 51K
C214 MC473
C215 MC223
IC203/B 4558D
VOLUME
VR201 50KA
R212 10K
R213 15K
C206 10uF/50V
R243 330
C225 560P
C207 100PF
IC201/B 4558D
C208 10uF/50V AUTO
R217 10K
Q203 J111
P201/A
PWR_IN
STB
GND
-15V
+15V
C221 CD104
C220 CD104
C227 2.2uF/50V
R244 1M
R245 10K
R246 100K
Q204 2N3906
R247 10K
R248 1K2
SW201
ATO
ON
+15V
R229 47K
R236 2M7
R237 10K
R239 100K
R240 10M
Q202 C1815GR
C219 220uF/16V
R238 22K
C223 100uF
IC204/B 4558D
JK203/A
LOW LI
JK203B
LOW RI
R214 15K
R230 47K
R231 47K
R215 15K
R216 1K
C226 0.047
C216 1uF/50V
R234 150
C222 220P
C217 10uF/50V
D204 VZ3V3
R232 47K
R233 150K
IC204/A 4558D
R235 1K
D203 1N4148
Q201 C1815GR
C218 CD104
R241 22K
R242 22K
SCS125A PRE-SCH
1999-03-09